3 GHz and 5 GHz Digitizers Extend Digitizer Performance for Automated Test Applications

National Instruments today released the industryâ€™s highest bandwidth PXI digitizer, complementing the rapidly expanding suite of performance instrumentation available in PXI. Co-developed with Tektronix, the worldâ€™s leading manufacturer of oscilloscopes, the NI PXIe-5186 digitizer employs Tektronix, Enabling Technology to achieve up to 5 GHz bandwidth and 12.5 GS/s sample rates.

The company also announced the NI PXIe-5185, which delivers 3 GHz bandwidth along with 12.5 GS/s sample rate. Both digitizers are part of the National Instruments PXI-based hardware and software platform, which provides optimized performance for automated test applications.

Proprietary Tektronix performance oscilloscope ASICs in the new digitizers provide the foundation for high-speed signal acquisition with low noise and high linearity, and are based on the highly-reliable IBM 7HP SiGe process. An example of the superior signal fidelity delivered by Tektronix, Enabling Technology is the incredibly low sampling jitter of the digitizer. The very low 500 fs RMS integrated jitter of the digitizers results in a remarkable 5.5 effective number of bits (ENOB) at 5 GHz.

National Instruments proprietary technology delivers high-data throughput for faster test execution and precision multimodule timing and synchronization for building high-channel-count, integrated test systems.

Designed for the 3U PXI Express platform, the digitizers can stream at rates as fast as 700 MB/s and synchronize channels on multiple modules to within160 ps resolution. These capabilities make the digitizers ideal for applications such as automated production test, semiconductor ATE and high-energy physics measurement systems.

The digitizers work with NI LabVIEW graphical design software for instrument control and automation, the NI LabWindowsâ„¢/CVI ANSI C software development environment and Microsoft Visual Studio .NET development tools for a wide range of programming options. Engineers can program the digitizers using the NI-SCOPE instrument driver or the new LabVIEW Jitter Analysis Toolkit, which offers a library of

functions optimized for high-throughput, jitter, eye diagram and phase noise measurements.

Readers can visit www.ni.com/digitizers to learn more about the new digitizers and the LabVIEW Jitter Analysis Toolkit.

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